

Ch 1 1st HW

p 15 28-35, 21-24

21.  $\sqrt{121} = 11$   $\mathbb{R}, \mathbb{Q}, \mathbb{Z}, \mathbb{W}, \mathbb{N}$

22.  $-4.55$   $\mathbb{R}, \mathbb{Q}$

23.  $\sqrt{10}$   $\mathbb{R}, \mathbb{I}$

24.  $-31$   $\mathbb{R}, \mathbb{Q}, \mathbb{Z}$

28. inverse (+)

29. associative

30. identity

31. associative

32. commutative

33. inverse

34. distributive

35. identity

p 25 35-40 61, 62

35. substitution

36. subtraction

37. transitive

38. addition

39. symmetric

40. multiplication

62.  $x = \frac{y}{y+4}$

$$xy + x^4 = y$$

$$4x = y - yx$$

$$4x = y(1-x)$$

$$\boxed{\frac{4x}{1-x} = y}$$

61.  $\frac{a(b-2)}{c-3} = x \rightarrow a(b-2) = x(c-3)$

$$b-2 = \frac{x(c-3)}{a}$$

$$\boxed{b = \frac{x(c-3)}{a} + 2}$$

p31 29, 35, 37, 39, 43

29.  $|x-25|=17$

$$x-25=17 \text{ or } x-25=-17$$

$$x=42$$

$$x=8$$

$$\boxed{\{8, 42\}}$$

35.  $|2z-3|=0$

$$2z-3=0$$

$$2z=3$$

$$z=\frac{3}{2}$$

$$\boxed{\{\frac{3}{2}\}}$$

37.  $7|4x-13|=35$

$$|4x-13|=5$$

$$4x-13=5 \text{ or } 4x-13=-5$$

$$4x=18$$

$$4x=8$$

$$x=\frac{9}{2}$$

$$x=2$$

$$\boxed{\{2, \frac{9}{2}\}}$$

39.  $-12|9x+1|=144$

$$|9x+1|=-12$$

$$\boxed{\emptyset}$$

43.  $3|2a+7|=3a+12$

$$|2a+7|=a+4$$

$$2a+7=a+4 \text{ or } 2a+7=-a-4$$

$$a=-3 \checkmark$$

$$3a=-11$$

$$a=-\frac{11}{3} \checkmark$$

$$\boxed{\{-3, -\frac{11}{3}\}}$$

p 37 21-27 odd

21.

$$13 - 4k \leq 27$$

$$-4k \leq 14$$

$$k \geq -\frac{7}{2}$$

$$\boxed{\left[-\frac{7}{2}, +\infty\right)}$$

23.

$$-27 < 8m + 5$$

$$-32 < 8m$$

$$-4 < m$$

$$m > -4$$

$$\boxed{(-4, +\infty)}$$

25.

$$2(4t + 9) \leq 18$$

$$4t + 9 \leq 9$$

$$4t \leq 0$$

$$t \leq 0$$

$$\boxed{(-\infty, 0]}$$

27.

$$14 - 8n \leq 0$$

$$-8n \leq -14$$

$$n \geq \frac{7}{4}$$

$$\boxed{\left[\frac{7}{4}, +\infty\right)}$$